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May 22, 2000

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, SW
12th Street Lobby, TW-A325
Washington, DC 20554

Re: Comments of MicroTrax™ in RM No. 9854

Dear Ms. Salas:

On behalf of MicroTrax™, the undersigned hereby submits comments pursuant to Section 1.405 of the Commission's rules in RM No. 9854, a Petition for Rulemaking filed by Itron, Inc. to amend part 2 and part 90 of the Commission's rules to allocate the 1427 – 1432 MHz band for automatic reading and utility telemetry use.

Should you have any questions or desire additional information with regard to these comments, kindly contact the undersigned.

Sincerely,

Gregg P. Skall

Enclosure

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FEDERAL COMMUNICATIONS COMMISSION
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Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 2 and Part 90 of the	)	
Commission's Rules To Allocate the 1427-	)	**RM No. 9854**
1432 MHz Band for Automatic Meter	)	
Reading and Utility Telemetry Use	)	

COMMENTS OF MicroTrax™

MicroTrax™ ("MicroTrax™"), by counsel and pursuant to Section 1.405 of the Commission's Rules, hereby comments upon the Petition for Rulemaking of Itron, Inc. ("Itron") to amend Parts 2 and 90 of the Commission's Rules to allocate the 1427 – 1432 MHz band, on a primary basis, for automatic meter reading ("AMR") and utility telemetry operations.

BACKGROUND

By its petition, Itron proposes yet another in an attractive list of potential applications for a group of frequencies, the 1427 – 1432 MHz band, that is being transferred from government use to the Commission for allocation and assignment to the private sector. MicroTrax™ believes that Itron proposes a very worthwhile use of electromagnetic spectrum in a way that may indeed provide "potential for energy conservation for the enhancement of public health and safety". This band and others are all the subject of MicroTrax™'s Petition for Rulemaking released by the Commission for comment in RM-9797.[1] As Itron recognizes on page 3 of its petition, the

[1] See Petition for Rulemaking by MicroTrax™ in RM-9797, available on the Federal Communications Commission website under the ECFS search engine at the following URL: https://haifoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6010150488

1427 – 1432 MHz band was included in a list of 200 MHz of spectrum to be transferred to the FCC pursuant to the Congressional Directive in the 1993 and 1997 Budget Acts.[2] While MicroTrax™'s has a concern regarding the Itron petition, it is not with Itron's proposed application or with the potential public benefits that could be achieved by it. Rather, MicroTrax™'s objection is with the timing of this separate Petition for Rulemaking and the specific proposed allocation of the 1427 – 1432 MHz band for the exclusive use of utility telemetry applications.

The 1427 – 1432 MHz Band

Itron proposes a full 5 MHz at 1427 – 1432 MHz to be dedicated exclusively to the use of utility meter reading and telemetry. This is one of a number of bands covered by OBRA-93 and BBA-97. A list of those bands is discussed in the MicroTrax™ petition mentioned above. See: footnote 1. In its petition, MicroTrax™ proposed that all of that spectrum should be made available in a comprehensive Notice of Proposed Rulemaking that would encompass all of the available bits and pieces of spectrum waiting to be allocated and assigned. Additionally, MicroTrax™ urged the use of auctions for assigning the spectrum employing combinatorial bidding techniques, which MicroTrax™ believes will serve the public interest best by licensing the spectrum in its most economically efficient matter while reserving some of the bands for nationwide application.[3] It is MicroTrax™'s view that the Commission should fold the instant Petition for Rulemaking into a master Notice of Proposed Rulemaking under, or consistent with

[2] **Omnibus Budget Reconciliation Act of 1983**, Public. L. no. 103-66, 107 stat. 312 (1993) ("OBRA-93") and the **Balance Budget Act of 1997**, Public L. no. 105-33, 111 stat. 251 (1997), ("BBA-97")

[3] We note that the Commission in its March 18 Public Notice has proposed using combinatorial bidding procedures for the upcoming 700 MHz auctions. Combinatorial bidding may be even more valuable in the auctions MicroTrax™ proposes because it may be more difficult to identify complementarities in advance. See: AUCTION OF LICENSES IN THE 747-762 AND 777-792 MHZ BANDS SCHEDULED FOR SEPTEMBER 6, 2000, COMMENT SOUGHT ON MODIFYING THE SIMULTANEAOUS MULTIPLE ROUND AUCTION DESIGN TO ALLOW COMBINATORIAL (PACKAGE) BIDDING, - Public Notice. DA 00-1075, Released: 05/18/2000.

the MicroTrax™ petition that would comprehensively allocate all of the spectrum identified in MicroTrax™'s petition.

Itron makes strong arguments for the public service benefits of a wireless system of utility meter reading and utility telemetry operations. MicroTrax™ agrees that wireless technology to read utility meters and to distribute time-of-date pricing information may service efficiency and benefit the economy. However, several factors combine to suggest that a dedicated band for this service may not be necessary for that goal, or be the best use of society's resources. In this connection, MicroTrax™ notes that Metricom has developed a remote meter reading technology for operation in the 902 – 928 MHz band under Part 15.

Furthermore, a relatively simple calculation shows that the 5 MHz Itron would dedicate to this single purpose is far more spectrum than needed to accommodate its purpose. To illustrate this point, MicroTrax™ suggests the following example, which assumes that a metered location transmits or receives ten 100-character messages per hour.[4] If each character is encoded in ASCII, then such messages require 800 bits per message, or 8,000 bits per hour. This would result in an allocation of 2.2 bits per second, per metered location.

Assuming further that a base station serves a radius of 5 miles and there are 1,000 meters per square mile, then the total bit rate is less than 200,000 bits per second. (200 kbit/sec). With reasonable modulation, this should fit into no more than one-fourth (1/4) MHz. The requested 5 MHz appears to be twenty times larger than is really needed!

The above calculations are based upon the assumption of large traffic from utility meters. If we assume that the average meter is read once per day rather than 240 times per day, then the

[4] This is time-of-day meter reading with overkill. More typical time-of-day meter reading plans have a few pricing periods in a day and do not rely upon constant monitoring of a consumers meter.

required band would fall drastically – to about 1 kHz. Further, time-of-day pricing information can be broadcast to all meters using a single transmission. Thus, having the capacity for frequent (once per minute) updates of the prices used by the meter or by intelligent appliances requires only a few kHz of bandwidth.

These calculations show that 5 MHz (a quarter the size of the entire FM broadcast band!) cannot be justified by the communications demands imposed under reasonable assumptions of traffic levels to and from utility meters. In fact, meter reading appears to be an excellent candidate for the unlicensed Part 15 bands. However, even were Itron correct that it is necessary to obtain dedicated spectrum for utility meter reading and telemetry purposes, a much smaller bandwidth would seem more than appropriate. MicroTrax™ suggests that perhaps the Utility community should look to 1432 – 1435 MHz. This band is also a part of the same overall 200 MHz spectrum transferred from government to private sector use, is likewise subject to FCC future allocation, and is included in the MicroTrax™ petition. It is immediately adjacent to the 1427 – 1432 MHz band requested by Itron and is currently used for very similar purposes. It should, therefore, possess the same attributes as the 1432 – 1435 MHz band. There does not appear to be a significant reason why it would not be just as useful for the requested purpose.

Moreover, were the Commission to act as suggested by these comments, and allocate all of the spectrum identified by MicroTrax™ for simultaneous auction utilizing combinatorial bidding, the Commission could be more comfortable that its allocations and assignments resulted in the most economically efficient distribution of a scarce resource. The potential bidders would have incentive to obtain only that amount of spectrum truly needed and required for their potential applications after less costly alternatives had been considered. Approaching the matter piecemeal, as requested by Itron, would have the opposite effect and carry with it the danger of

allocating and dedicating larger spectrum blocks than absolutely necessary to achieve the desired purpose, no matter how socially desirable that purpose may be.

CONCLUSION

For the reasons stated above, MicroTrax™ believes the Commison should act on the instant petition by folding it into RM-9797, the MicroTrax™ Petition, and proceeding expeditiously to propose a comprehensive rulemaking encompassing all of the spectrum identified by MicroTrax™. As Itron suggests, the Commission's *Spectrum Policy Statement* recognized that its pronouncements were only a "guidepost". MicroTrax™ believes that the best guidepost is achieved through an auction employing combinatorial bidding techniques. MicroTrax™ is as anxious as any other party for the opportunity to bid on and obtain the spectrum required to achieve its own goals, which it believes are also highly desirable and socially beneficial. Therefore, the Commission should not act on piecemeal petitions but move forward in a comprehensive matter.

Respectfully submitted,

By: _____
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May 20, 2000

CERTIFICATE OF SERVICE

I, Paula M. Lewis, a secretary in the law firm of Pepper & Corazzini, L.L.P., do hereby certify that on this 22nd day of May, 2000, copies of the foregoing **Comments of MicroTrax™**, were mailed, postage prepaid, to the following:

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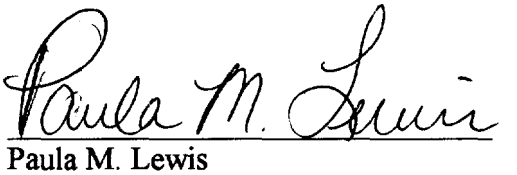

Paula M. Lewis